

CLAIM AMENDMENTS

1. (Currently Amended) A method of forming a welded structure comprising:

arranging constituent pieces of the structure to be welded on a support surface in a desired configuration,

recording at least one extended two-dimensional image of the arrangement of the constituent pieces on the support surface,

determining ~~from the image(s)~~ the positions of a plurality of weld points by viewing the two-dimensional image(s),

receiving a user input that specifies a welding method for each weld point,

welding with welding apparatus the constituent pieces together at said weld points in accordance with the respective specified welding methods to form the welded structure, and

controlling the welding of the constituent pieces with said welding apparatus on the basis of the determined positions of the weld points.

2. (Original) A method according to claim 1, comprising recording the at least one image in memory of a reader apparatus.

3. (Previously Amended) A method according to claim 1, comprising recording the at least one image in memory.

4. (Currently Amended) A method according to claim 1, comprising recording the at least one image in memory of a device ~~(+7)~~ external to the camera means.

5. (Original) A method according to claim 1, wherein the method further comprises displaying the positions of the weld points on a display device for assisting a user to control guiding of the welding apparatus.

6. (Original) A method according to claim 1, comprising providing a user with the ability to override automatic control of the welding of the constituent pieces.

7. (Original) A method according to claim 1, comprising using control information to guide movement of the welding apparatus.

8. (Currently Amended) A method according to claim 1, comprising welding the structure automatically ~~or~~ with the assistance of a user.

9. (Original) A method according to claim 1, comprising welding the constituent pieces together using a welding robot or a manipulator.

10. (Previously Amended) A method according to claim 1, comprising determining the positions of the weld points from the at least one image either automatically or with the assistance of a user.

11. (Original) A method according to claim 10, further comprising determining the type of welding of each weld point and determining whether the welding should be performed manually, semi-automatically or automatically.

12. (Previously Amended) A method according to claim 1, comprising welding the constituent pieces together by arc welding.

13. (Original) A method according to claim 1, comprising guiding the welding apparatus to follow the shape or form of the structure during the welding.

14. (Currently Amended) A method of forming a large welded structure, comprising:

arranging constituent pieces of the structure to be welded on a support surface in a desired configuration,

recording at least one extended two-dimensional image of the arrangement of the constituent pieces on the support surface,

determining ~~from the image(s)~~ the positions of a plurality of weld points by viewing the two-dimensional image(s),

receiving a user input that specifies a welding method for each weld point.

welding with welding apparatus the constituent pieces together at said weld points in accordance with the respective specified welding methods to form the welded structure, and

controlling the welding of the constituent pieces with said welding apparatus on the basis of the determined positions of the weld points.

15. (Currently Amended) A welding arrangement for forming a welded structure from a plurality of constituent pieces, comprising a support surface for supporting the constituent pieces in the configuration of a structure to be welded,

camera means for providing an extended two-dimensional image of the structure to be welded,

evaluating means for determining the positions of weld points of the structure to be welded based on the two-dimensional image provided by the camera means,

input means for receiving user input specifying a welding method for each weld point, and

welding apparatus for welding together the constituent pieces of the structure at the positions of the weld points determined by the evaluating means in accordance with the respective specified welding methods.

16. (Original) A welding arrangement according to claim 15, wherein the evaluating means includes means for identifying the constituent pieces of the structure to be welded and for determining the optimal method of welding the identified constituent pieces.

17. (Original) A welding arrangement according to claim 15, including control means for guiding the welding apparatus during welding of a structure.

18. (Original) A welding arrangement according to claim 15, including override means for allowing a user to override control of the welding apparatus.

19. (Original) A welding arrangement according to claims 15, including override means for a user either to accept or to reject

automatic control of the welding apparatus and to control the welding of a part or parts of the structure if automatic control is rejected.

20-22 (Cancelled)

23. (Previously Added) A method according to claim 3, comprising recording the at least one image in memory of the camera means (3), or in memory of the welding apparatus (4), or in a combined memory for the camera means (3) and the welding apparatus (4).

24. (Previously Added) A method according to claim 1, comprising recording the extended image photographically.

25. (New) A method according to claim 1, wherein the step of determining the positions of a plurality of weld points by viewing the two-dimensional image(s) comprises determining the positions of a plurality of potential weld points, the method further comprises receiving a user input that accepts or rejects each potential weld point, and the step of receiving a user input that specifies a welding method for each weld point comprises receiving a user input that specifies a welding method for each accepted weld point.

26. (New) A method according to claim 14, wherein the step of determining the positions of a plurality of weld points by viewing the two-dimensional image(s) comprises determining the positions of a plurality of potential weld points, the method further comprises receiving a user input that accepts or rejects each potential weld point, and the step of receiving a user input that specifies a welding method for each weld point comprises receiving a user input that specifies a welding method for each accepted weld point.

27. (New) An arrangement according to claim 15, wherein the evaluating means for determining the positions of weld points of the structure to be welded comprises means for determining the positions of potential weld points, the input means comprises means for receiving user input for accepting or rejecting each potential weld point and for receiving a user input that specifies a welding method for each accepted weld point, and the welding apparatus comprises

apparatus for welding together the constituent pieces of the structure at the positions of the accepted weld points.